

DESCRIPTION OF LARVA AND PUPA OF *XYLOPHILUS OTHOIDES* (FLEUTIAUX, 1899) (COLEOPTERA, EUCNEMIDAE, MELASINAE)

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ABSTRACT

Larva and pupa of *Xylophilus othoides* (Fleutiaux, 1899) (COLEOPTERA, EUCNEMIDAE, MELASINAE) are described for the first time from material collected on decayed wood of *Liriodendron tulipifera* L. (Magnoliaceae), heavily infested by *Pantophthalmus pictus* (Wiedemann, 1821) (Diptera, Pantophthalmidae) at São Paulo, Brazil. The immature forms and the adult habitus, mandible and aedeagus are figured. The immature forms of this species are compared with the descriptions of *Dirrhagofarsus lewisi* (Fleut., 1901) and *Fornax* sp. *Rhopalogaster* sp. (Diptera, Asilidae) and Pteromalidae (Hymenoptera) are mentioned as predators.

KEYWORDS. Host-plants, immature forms, predators, *Xylophilus*.

INTRODUCTION

The genus *Xylophilus* Mannerheim, 1823 contains nine species, distributed specially in Neartic and Palearctic regions, with one Neotropical species. *Xylophilus othoides* (Fleutiaux, 1899) from Brazil (Rio de Janeiro) was originally described in the genus *Xylobius* Latreille, 1834. SCHENKLING (1928) and BLACKWELDER (1944) catalogued this species as *X. orthoides*. Among the American species of the family Eucnemidae with described the immature forms only *Dirrhagofarsus lewisi* (Fleutiaux, 1901) and *Fornax* sp. are known.

MATERIAL AND METHODS

Larvae and pupa of *Xylophilus othoides* were collected at "Instituto Florestal de São Paulo", São Paulo, Brazil, on July 3rd, 1991, from a decayed trunk of *Liriodendron tulipifera* L. (Magnoliaceae), heavily infested by *Pantophthalmus pictus* (Wiedemann, 1821) (Diptera, Pantophthalmidae), one of its favored host. The trunk was fresh and excessively moist, around a hundred per cent of humidity and had a characteristic fermentation odor. The material was escated about 10 mm into the sapwood.

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Samples of the sapwood, which size varied from 10 mm to 40 mm, were collected and kept in the wood cages (40 cm X 40 cm X 70 cm) covered by nylon and humidified periodically. On July 9th, two larvae were collected and fixed, another one had its location circumscribed with a magikink pen for observation of its development and the sapwood was kept in the cage. This larva pupated on July 25th and was fixed on July 30th.

On August 12th, 1991, from the cage emerged twelve adults, five males and seven females. Two couples were separated and put back on the same sapwood inside the glass container. The remainder adults were kept inside of the wood cages, together with sapwood.

From the remainder trunk kept in the wood cages, larvae, pupae and one adult of (?) *Rhopalogaster* sp. (Diptera, Asilidae) were collected and fixed. Besides the Asilidae, one specimen of an unidentified Hymenoptera (Pteromalidae) was also collected. We believe that the Asilidae and the Pteromalidae were predated the Eucnemidae larvae, considering that from the wood cages only Eucnemidae emerged.

The reared material is deposited in the collection of "Instituto Florestal de São Paulo" (CEIF) (9 males, 5 females, 2 larvae, 1 pupa).

Xylophilus othoides (Fleutiaux, 1899)

The adult of *X. othoides* (fig. 4) is characterized specially by the third antennal segment transverse, twice shorter than the second and wider than long; mandible and aedeagus (figs. 13-16).

Mature larva (figs. 1-3, 7-12). Length: 13.5mm; width of prothorax: 1.0mm. Orthosomatic (figs. 1, 2). General coloration cream. Body cylindrical and somewhat depressed, apode, slightly sclerotized. Head and apex of abdomen brownish. Setae present only on the apex of ninth segment. Head prognathous, depressed, slightly embedded in the prothorax; ventral region (fig. 7) with a sclerotized lyre-shaped plate, punctate on 3/4 basal with two, elongate darker areas near anterior margin and, medially, a group of five small and rounded area; dorsally (fig. 8) with a sclerotized plate W-shaped, punctate, with two elongate darker spots near anterior margin, and medially, two small round areas. Anterior and lateroanterior margins serratulate; mouthparts not exposed. Epicranial suture absent. Nasal transverse (fig. 5), subtrapezoidal with anterior angles rounded; paranasal lobes well developed, slightly rounded. Mandibles (figs. 5, 6) stout, partially embedded in the cephalic capsule; lateral internal and basal margins rounded; two lateral external rounded teeth. Maxillae absent. Labium reduced, labial palp 2-segmented. Antennae (figs. 5,6) embedded in the head 2-segmented; first segment very elongate, with a distal cupuliform sensorial appendix, almost as long as the second segment and two distal small sensorial setae.

Prothorax (figs. 1,2) dorsally and ventrally with two rugous sclerotized lateral plates, and a buff area between these sclerotizations, larger dorsally. Mesothorax dorsally with a transversal buff area with two small elliptical rugous sclerotized area fitted distally; ventrally presents three of these sclerotized rugous areas, being the median one larger. Metathorax with a transversal buff area and a median elliptical areole larger ventrally. Meso - and metathorax with a lateral pair of biforous spiracles (figs. 11, 12); on the left side the meso - and metathorax spiracles are the same size and smaller than the abdominal ones; on the right size the mesothoracic spiracles are bigger than the metathoracic ones and slightly larger than the abdominal ones.

Abdominal segments I-VIII, each, with a buff band and an elliptical areola dorsally and ventrally, and a lateroanterior pair of biforous spiracles. Segment IX (figs.

9, 10) rounded with distal short setae; ventrally with a median small elliptical areola and a vertical anal slit, surrounded by asperites as shown by fig. 9.

Pupa (fig. 3). Length: 6.0 mm; width of prothorax: 2.0mm. General coloration cream. Head setous and partially visible from above. Prothorax setous, as long as wide (including the hind angle). Anterior pterotheca with some setae. Abdominal segments III-VII, laterally with a tuft of setae; I-VIII with a longitudinal median ridge starting near the proximal margin but not reaching the distal margin of each segment; one proximal seta each side of ridge; VIII smaller than the others and with two distal spiniform projections; I-VIII with a pair of small spiracles; the first one, dorsal and larger than the others which are lateral.

DISCUSSION

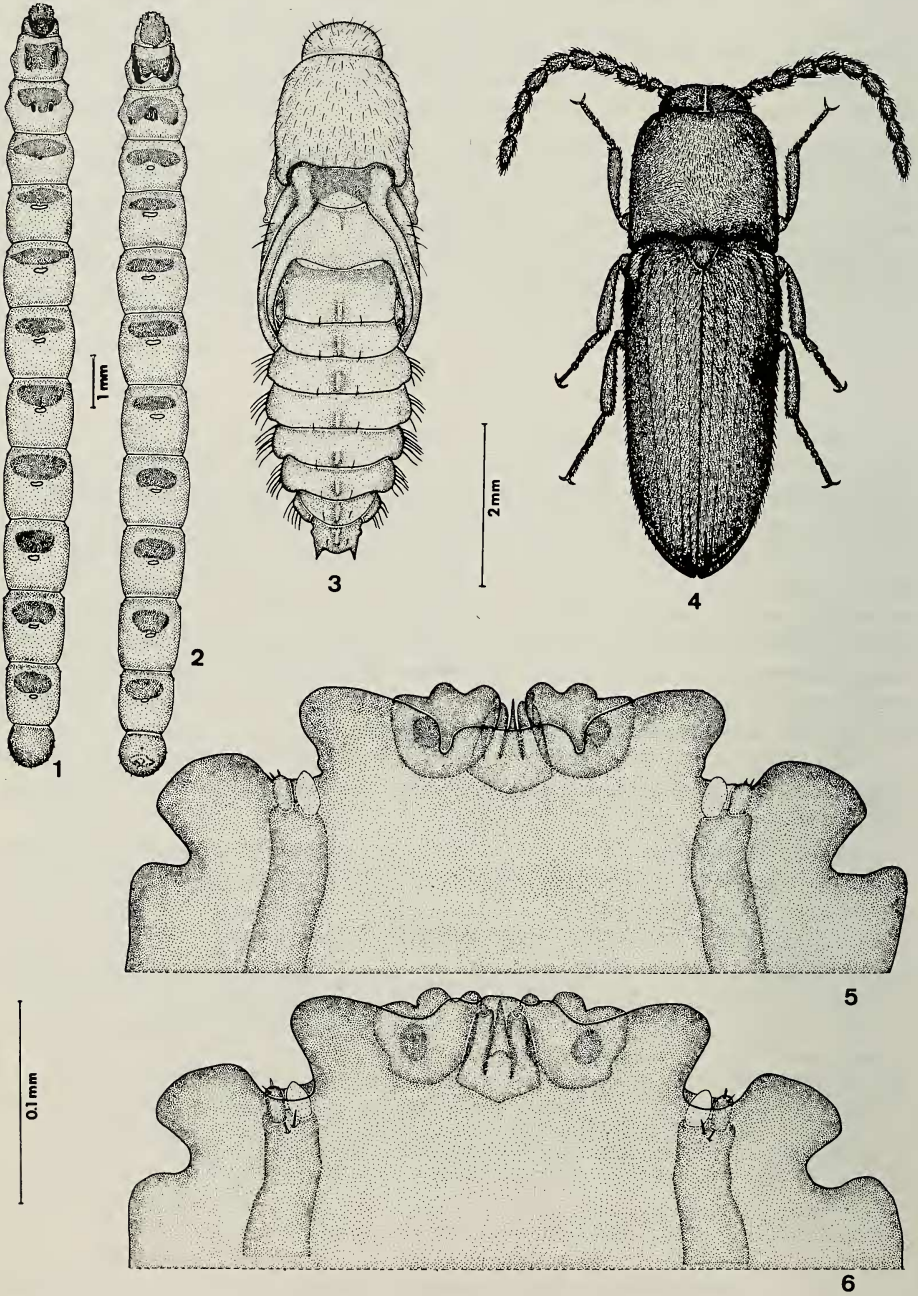
Larvae of *Xylophilus othoides* were compared with *Dirrhagofarsus lewisi* (Fleutiaux, 1901) and *Fornax* sp. both American species, described, respectively, by FORD & SPILMAN (1979) and COSTA et al. (1988). The main differences observed were: epicranial suture and maxillae absent in *Xylophilus* and *Dirrhagofarsus* and present in *Fornax*; labial palp 3-segmented in *Dirrhagofarsus* and 2-segmented in the others; distal region of first antennal segment with a cupuliform sensorial appendix almost as long as the second segment and two small setae in *Xylophilus*, a cupuliform sensorial appendix longer than the second segment and one small sensorium in *Fornax* and only a thin sensorium in *Dirrhagofarsus*; the sclerotized plates on pro-, meso- and metathorax are different in the three genera; spiracles present on meso- and metathorax in *Xylophilus* and only in mesothorax in *Dirrhagofarsus* and *Fornax*.

The observation of the two couples revealed that during the day, the inactive adults stayed hidden. The diurnal inactivity agrees with that observed by SPILMAN et al. (1979).

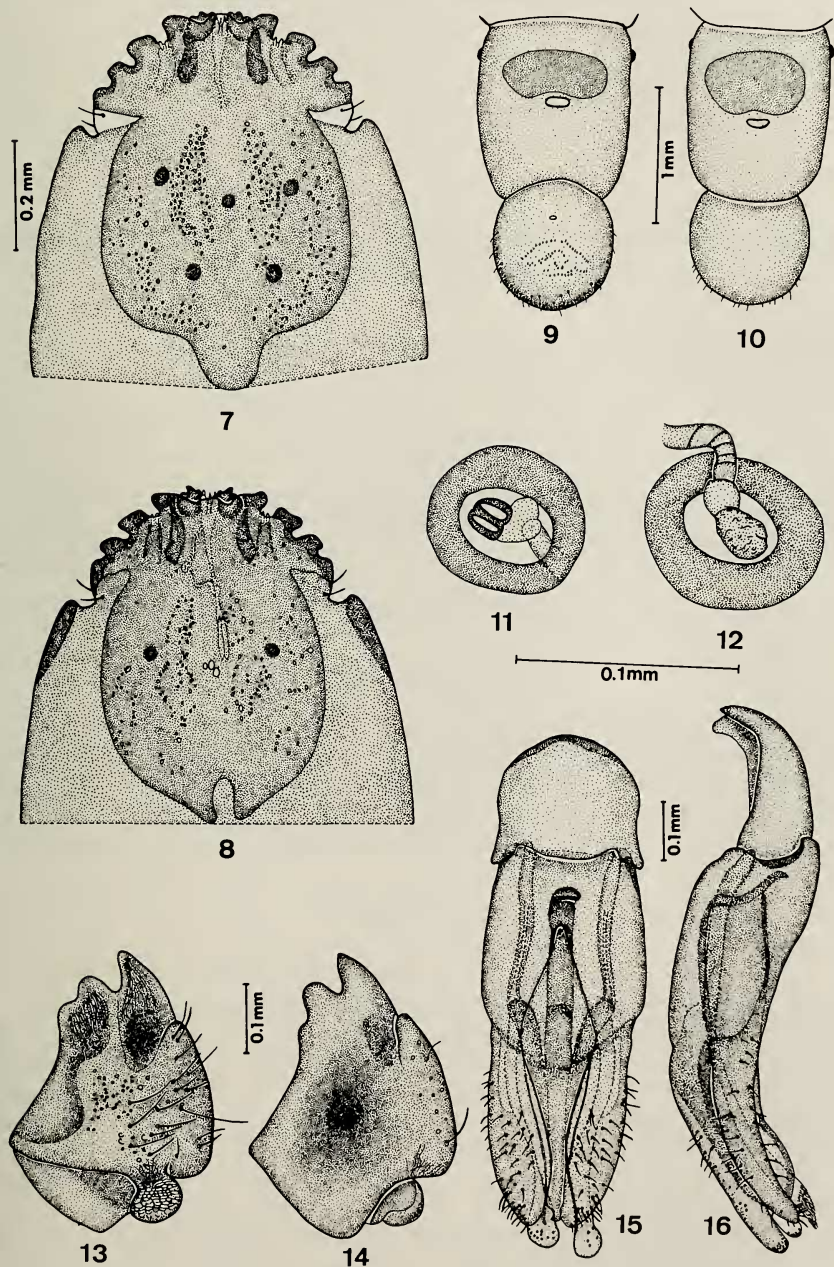
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Figs. 1-6. *Xylophylus othoides*. Larva: 1, dorsal; 2, ventral; distal region of head: 5, dorsal; 6, ventral. Pupa: 3, dorsal. Adult: 4, dorsal. Figs. 1, 2; 3, 4; 5, 6; respectively to the same scale.



Figs. 7-16. *Xylophilus othoides*. Larva: 7, 8, head (ventral, dorsal); 9, 10, VIII-IX abdominal segments (ventral, dorsal); 11, 12, mesothoracic spiracle (dorsal, ventral). Adult: 13, 14, mandible (ventral, dorsal); 15, 16, aedeagus (ventral, lateral). The figs. 7, 8; 9, 10; 11, 12; 13, 14; 15, 16 to the same scale.